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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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09/53,531

EXAMINER
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ART UNIT	PAPER NUMBER
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6

DATE MAILED:

### EXAMINER INTERVIEW SUMMARY RECORD

All participants (applicant, applicant's representative, PTO personnel):

(1) Jerry Johnson (3) \_\_\_\_\_  
(2) John Ford (4) \_\_\_\_\_

Date of interview 5-16-01

Type: ☐ Telephonic ☒ Personal (copy is given to ☐ applicant ☒ applicant's representative).

Exhibit shown or demonstration conducted: ☐ Yes ☒ No. If yes, brief description: \_\_\_\_\_

Agreement ☐ was reached with respect to some or all of the claims in question. ☒ was not reached.

Claims discussed: Newly added claims 15-27 + claims 6 & 8

Identification of prior art discussed: JA 6-156049 & Nagao (4696,340)

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Discussed the

combined teachings of JA '049 & Nagao and how even if Nagao, were  
tilted as shown by JA '049 (HE26) one wouldn't necessarily arrive at  
tubes tilted in a direction parallel to the air flow issuing from the  
blower, whereby condensate is guided along the bottom edges of the tubes toward the  
claim.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

☐ 1. It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph below has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., items 1-7 on the reverse side of this form). If a response to the last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the interview.

☐ 2. Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the substance of the interview unless box 1 above is also checked.

Examiner's Signature

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:

SHIROTA et al.

Application No.:09/531,531

Filed: March 21, 2000

Group Art Unit: 3743

Examiner: Ford, John K.

FOR: AUTOMOTIVE AIR CONDITIONER

\* \* \* \* \*

May 16, 2001

*Proposed*  
AMENDMENT

Hon. Commissioner of Patents

Washington, D.C. 20231

Sir:

In reply to the Office Action dated January 25, 2001, please amend the above identified application as follows:

**In the Claims:**

Cancel claims 1 - 5 and 13 without prejudice or disclaimer.

Please amend claims 6 - 9, 11, 12 and 14 as follows:

6. (Twice Amended) An air conditioner for an automotive vehicle having a passenger compartment, said air conditioner comprising:

a case forming an air passage through which air is blown into the passenger compartment;

a blower for blowing air in said case into the passenger compartment;

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a cooling heat exchanger for cooling air blown from said blower, said cooling heat exchanger being slightly inclined relative to a horizontal surface by an inclination angle;

a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air to be blown into the passenger compartment is conditioned, said heating heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger; and

a mode switching member for selectively switching flow direction of the conditioned air blown into the passenger compartment, wherein

said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes; and

said blower is offset from said cooling heat exchanger to a side of said cooling heat exchanger.

7. (Amended) An air conditioner according to claim 6, wherein said blower and said cooling heat exchanger are disposed in such a manner that air is approximately horizontally blown from said blower to a lower side of said cooling heat exchanger, and

wherein air is introduced into said cooling heat exchanger from below the cooling heat exchanger.

8. (Twice Amended) An air conditioner according to claim 6, wherein:  
air is blown from said blower in the air passage;  
said cooling heat exchanger is disposed within said air-blowing passage; and  
said cooling heat exchanger is inclined such that the cooling heat exchanger includes a higher side and a lower side;

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said cooling heat exchanger is arranged in the air passage such that air blown by the blower is directed to the side through the air passage from the blower toward the higher side of the cooling heat exchanger and subsequently toward the lower side of the cooling heat exchanger, and such that air blown by the blower passes upwardly through the cooling heat exchanger.

9. (Amended) An air conditioner according to claim 6, wherein said tubes extend in a direction approximately equal to a direction of air blown in said air passage from the blower to the cooling heat exchanger.

11. (Amended) An air conditioner according to claim 6, wherein:  
said case has a drain port for draining condensed water from said cooling heat exchanger to an outside of said case; and

said drain port is provided at a bottom-most portion of said case.

12. (Amended) An air conditioner according to claim 6, wherein:  
said case has a first opening for blowing air toward an upper side of the passenger compartment, a second opening for blowing air toward a lower side of the passenger compartment, and a third opening for blowing air toward a windshield; and

said mode switching member is disposed at an upper side of said heating heat exchanger to selectively open and close said first opening, said second opening and said third opening.

14. (Amended) An air conditioner for a vehicle having a passenger compartment, said air conditioner comprising:

a case forming an air passage through which air flows into the passenger compartment;

a cooling heat exchanger for cooling air, said cooling heat exchanger being slightly

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inclined relative to a horizontal surface by an inclination angle;

a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air flowing into the passenger compartment is conditioned, said heating heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger; and

a mode switching member for selectively switching flow direction of the conditioned air flowing into the passenger compartment, wherein

said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes; and

said cooling heat exchanger is disposed in said case so that air is introduced into a space under said cooling heat exchanger from a side of said cooling heat exchanger.

See the attached Appendix for the changes made to effect the above claims.

Please add the following new claims:

15. (New) An air conditioner according to claim 11, wherein said drain port is disposed below a lower side of said cooling heat exchanger.

16. (New) An air conditioner according to claim 6, wherein the air passage between said blower and said cooling heat exchanger is approximately horizontal.

17. (New) An air conditioner according to claim 6, wherein the tubes and the corrugated fins extend in a direction approximately equal to a direction of air blown in said air passage from said blower to said cooling heat exchanger.

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18. (New) An air conditioner according to claim 6, wherein said blower is laterally spaced apart from said cooling heat exchanger.

19. (New) An air conditioner according to claim 6, wherein said cooling heat exchanger includes a higher side and a lower side, and said blower includes a centrifugal fan; wherein the centrifugal fan is offset from said cooling heat exchanger to the higher side of said cooling heat exchanger, and the centrifugal fan is laterally spaced apart from said higher side of said cooling heat exchanger.

20. (New) An air conditioner according to claim 19, wherein the centrifugal fan and the lower side of the cooling heat exchanger, respectively, are vertically offset a predetermined distance from said heating heat exchanger.

21. (New) An air conditioner for a vehicle having a passenger compartment, said air conditioner comprising:

a case defining an air passage through which air is blown into the passenger compartment;

a blower disposed for blowing air in said case through the air passage into the passenger compartment;

said case includes an air inlet for the passage of air into said blower, said air inlet is disposed at an upper portion of said blower;

a cooling heat exchanger for cooling air blown from said blower, said cooling heat exchanger is disposed in said case within said air passage,

said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes,

said cooling heat exchanger being slightly inclined relative to a horizontal surface by an inclination angle such that said cooling heat exchanger includes a lower side and a higher side,

said lower side of the cooling heat exchanger is positioned lower than said air inlet;

said blower is offset from said cooling heat exchanger to a side of said cooling heat exchanger in such a manner that air blown from said blower is directed to the side in the air passage;

a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air blown into the passenger compartment is conditioned, said heating heat exchanger being disposed approximately horizontally above said cooling heat exchanger; and

a mode switching member for selectively switching flow direction of the conditioned air blown into the passenger compartment.

22. (New) An air conditioner according to claim 21, wherein:

said blower includes a centrifugal fan including a top and a bottom; and

said lower side of the cooling heat exchanger is positioned lower than said top of said centrifugal fan.

23. (New) An air conditioner according to claim 21, wherein:

said case includes a scroll casing;

said blower includes a centrifugal fan disposed within said scroll casing; and

said air inlet for the passage of air into the blower is a bell-mouth shaped inlet disposed at the top of the scroll casing.

24. (New) A vehicle comprising:

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a passenger compartment, and  
an air conditioner comprising:  
a case forming an air passage through which air is blown into the passenger compartment;  
a blower for blowing air in said case into the passenger compartment;  
a cooling heat exchanger for cooling air blown from said blower, said cooling heat exchanger being slightly inclined relative to a horizontal surface by an inclination angle;  
a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air to be blown into the passenger compartment is conditioned, said heating heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger; and  
a mode switching member for selectively switching flow direction of the conditioned air blown into the passenger compartment, wherein  
said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes; and  
said blower is offset from said cooling heat exchanger to a side of said cooling heat exchanger.

25. (New) A vehicle comprising:

a passenger compartment, and  
an air conditioner comprising:  
a case forming an air passage through which air flows into the passenger compartment;  
a cooling heat exchanger for cooling air, said cooling heat exchanger being slightly



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inclined relative to a horizontal surface by an inclination angle;

a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air flowing into the passenger compartment is conditioned, said heating heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger; and

a mode switching member for selectively switching flow direction of the conditioned air flowing into the passenger compartment, wherein

said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes; and

said cooling heat exchanger is disposed in said case so that air is introduced into a space under said cooling heat exchanger from a side of said cooling heat exchanger.

26. (New) An air conditioner for an automotive vehicle having a passenger compartment, said air conditioner comprising:

a case forming an air passage through which air is blown into the passenger compartment;

a blower for blowing air in said case into the passenger compartment;

a cooling heat exchanger for cooling air blown from said blower, said cooling heat exchanger disposed in said case within the air passage, said cooling heat exchanger being slightly inclined relative to a horizontal surface by an inclination angle, such that said cooling heat exchanger includes a higher side and a lower side, said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of fins;

said blower is offset from said cooling heat exchanger to a side of said cooling heat

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exchanger;

said cooling heat exchanger is arranged in the air passage such that air blown by the blower is directed to the side through the air passage from the blower toward the higher side of the cooling heat exchanger and subsequently toward the lower side of the cooling heat exchanger, and such that air blown by the blower passes upwardly through the cooling heat exchanger; and

a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air to be blown into the passenger compartment is conditioned, said heating heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger.

27. (New) An air conditioner according to claim 26, wherein said fins are corrugated, and said corrugated fins are disposed between adjacent said tubes.

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**REMARKS**

Reconsideration and allowance of the present application based on the following remarks is respectfully requested.

The Examiner has noted the similarity of the present application to SN 09/460,795. SN 09/460,795 was expressly abandoned under Rule 138 on March 8, 2001. A Notice of Abandonment for this application is dated 3/19/01.

The Examiner has requested Applicants provide serial numbers and relationships of any other child application which depend for continuity on any of the listed applications: 08/531,383; 08/731,792; 09/038,902; 09/460,795; 09/531,531.

Application 09/81<sup>6</sup>/~~4~~,384, filed March 26, 2001, is a divisional of the present application U.S. Serial No. 09/531,531.

The Examiner has requested Applicants provide the publication dates of all priority documents.

The publication date of Japanese application No. 6-240362 is April 23, 1996. The publication date of Japanese application No. 7-235505 is May 13, 1997. Japanese application No. 7-235505 is a continuation of Japanese application Nos. 6-227592 and 7-220903 and contains all subject matter contained in both applications Nos. 6-227592 and 7-220903. As such, application Nos. 6-227592 and 7-220903 were not carried through to publication and only application No. 7-235505 was published. The publication date of Japanese application No. 7-270148 is April 28, 1997. The publication date of Japanese application No. 7-281479 is May 13, 1997.

The Examiner has requested that Applicants provide a description of how SN 08/731,792

*published before SN  
08/731,792  
was filed.  
10-18-96*

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differs in disclosure from SN 08/531,383.

← what is the

IP part.

The Examiner has requested that Applicants provide a complete translation of the cited Japanese prior art references. 37 CFR 1.98 (c) states that "If a written English-language translation of a non-English document, or a portion thereof, is within the possession, custody, or control of, or is readily available to any individual designated in 1.56 (c), a copy of the translation shall accompany the statement. Substantial portions of the Japanese prior art references cited by Applicants have been translated in response to the request and are attached to this reply. Applicants submit the translations present all of the relevant subject matter within the Japanese prior art references cited by Applicants. Additionally, JP-61-75305 is a publication document of JP-Y-5-3365, and all subject matter of JP-61-75305 is the same as JP-Y-5-3365.

Claims 1 - 14 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-7 of U.S. Patent 5,755,107. Claims 1 - 14 were also rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-16 of U.S. Patent 6,044,656. Applicants respectfully traverse the rejection.

The requirements for an obvious type double patenting rejection are set forth in the MPEP (section 804 B. 1.). These requirements have not been met by the Examiner. Namely, the Examiner has not established the proper factual determinations of establishing the differences between the inventions defined by the conflicting claims, and establishing the reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the parent. The proper factual inquiries are set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). In the present situation, the Examiner has not performed any comparison between the

claims of the application with the claims of the U.S. Patents 5,755,107 and 6,044,656.

Accordingly, Applicants respectfully traverse the rejection.

A complete copy of Japanese Publication JP-Y-5-3365 (Identified by the Office Action as JA 5-003,365) is supplied herewith. A full page, partial translation of this reference is also provided herewith.

Claims 1 - 14 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The expressions "at a center of the instrument panel" and "width direction" were recited in cancelled claims 1 and 13, which renders this rejection moot.

To the extent that remaining amended claims 6 and 14, and new independent claim 21, also include language found relating to the vehicle, Applicants traverse the rejection. Claims 6, 14 and 21 are explicitly drawn to an air conditioner. The expression "passenger compartment" is used in the claims merely to identify the environment with which the air conditioner cooperates. Moreover, new claims 24 and 25 are added, by this Amendment, and are directed to a vehicle including the air conditioner of claims 6 and 14, respectively, thereby further showing that claims 6 and 14 are directed to the subcombination of the air conditioner. Withdrawal of this rejection is respectfully requested.

Claims 1 - 14 were rejected under 35 U.S.C. 102(b)/103(a) over JA 6-156049. Applicants respectfully traverse the rejection.

JA 6-156049 fails to disclose, teach or suggest, without limitation, an air conditioner that includes, *inter alia*, a cooling heat exchanger that includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes, as is recited in independent claims 6 and 14. JA 6-156049 does not disclose the structure of the

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cooling heat exchanger. Moreover the Office Action does not address these features, which were originally presented in claims 6 and 14. A cooling heat exchanger that includes corrugated fins is advantageous because this configuration provides specific draining capabilities to the cooling heat exchanger. Condensed water is able to flow through the cooling heat exchanger on and along the tubes (see the specification page 20 lines 2 through 5, and page 22 lines 11 through 16). Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-14 were rejected under 35 U.S.C. 103(a) over JA 6-156049 and further in view of JA 0167318, prior art FIG. 19 of the present application, or Netherlands 166433 (FIG. 1). This rejection is respectfully traversed.

JA 0167318, prior art FIG. 19 of the present application, and Netherlands 166433 (FIG. 1) were merely used in the Office Action to teach central mounting of the air conditioner, as was previously claimed in cancelled Claim 1. None of these references address the deficiencies noted above with respect to JA 6-156049. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-14 were rejected under 35 U.S.C. 103(a), further in view of JA 56-82628 or JA 56-149819. This rejection is respectfully traversed.

JA 56-82628 and JA 56-149819 were merely used in the Office Action to teach a positional relationship between the blower and cooling heat exchanger. Neither of these references address the deficiencies noted above with respect to JA 6-156049. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-14 were rejected under 35 U.S.C. 103(a), further in view of Bates (US

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1909144), Mullin (US 3000192), Brandecker (US 2552396), Gebhardt (US 2703223) or Martsteller (US 3492833). This rejection is respectfully traversed.

Bates (US 1909144), Mullin (US 3000192), Brandecker (US 2552396), Gebhardt (US 2703223) and Martsteller (US 3492833) were merely used in the Office Action to teach an orientation of tubes within a cooling heat exchanger. Gebhardt (US 2703223) was also merely used in the Office Action to teach an orientation of a drain relative to a cooling heat exchanger. None of these references address the deficiencies noted above with respect to JA 6-156049. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

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By this Amendment, claims 6 and 14 are amended for clarity only. Specifically, claim 6 has been amended to replace the recitation "disposed to be shifted" with the recitation --offset-- as this expression more clearly describes the position of the blower relative to the cooling heat exchanger. Claim 14 has been amended to merely correct a typographical error. The recitation "hear" has been replaced with the recitation --heat--.

Claims 7-12 depend from claim 6 and are allowable by virtue of that dependency, and for the additional features they recite. For example, claim 8 is specifically drawn to a said cooling heat exchanger that is inclined such that the cooling heat exchanger includes a higher side and a lower side. The cooling heat exchanger is arranged in the air passage such that air blown by the blower is directed to the side through the air passage from the blower toward the higher side of the cooling heat exchanger and subsequently toward the lower side of the cooling heat exchanger. Air blown by the blower passes upwardly through the cooling heat exchanger. This configuration of the cooling heat exchanger and blower is not disclosed or suggested in JA 6-156049. None of the teaching references relied upon by the Office Action disclose or suggest this configuration of the cooling heat exchanger and blower in automotive air conditioner.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned **"Version with markings to show changes made"**.

New claims 15-20 depend from claim 6 and are allowable by virtue of that dependency, and for the additional features they recite.

New independent claim 21 is drawn to a positional relationship of an air inlet, for the passage of air into the blower, and the cooling heat exchanger. The air inlet is disposed at an



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upper portion of the blower. The lower side of the cooling heat exchanger is positioned lower than the air inlet. This positional relationship of the inlet, for the passage of air into the blower, and the cooling heat exchanger is not disclosed or suggested in JA 6-156049. This positional relationship is also not disclosed or suggested in the teaching references relied upon in the Office Action. Accordingly, claim 21 is allowable. New claims 22 and 23 depend from claim 21 and are allowable by virtue of that dependency, and for the additional features they recite.

New independent claims 24 and 25 are drawn to vehicles and include all of the features of claims 6 and 14, respectively. Accordingly, claims 24 and 25 relate to claims 6 and 14 as combination and subcombination, and restriction of claims 24 and 25 would be inappropriate.

New independent claim 26 is drawn to an air conditioner including a cooling heat exchanger disposed in an air passage. The cooling heat exchanger is inclined such that the cooling heat exchanger includes a higher side and a lower side. Air is blown through the air passage toward the higher side and subsequently toward the lower side. This feature is not shown in the prior art cited by the Examiner. New claims 27 depends from claim 26 and is allowable by virtue of that dependency, and for the additional features recited.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

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Respectfully submitted,  
Pillsbury Winthrop LLP

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Enclosures: 1)Appendix  
2)Partial translations of cited prior art

Appendix

Version with markings to show changes made

Claims 1-5 and 13 were cancelled.

6. (Twice Amended) An air conditioner for an automotive vehicle having a passenger compartment, said air conditioner comprising:

- a case forming an air passage through which air is blown into the passenger compartment;
- a blower for blowing air in said case into the passenger compartment;
- a cooling heat exchanger for cooling air blown from said blower, said cooling heat exchanger being slightly inclined relative to a horizontal surface by an inclination angle;
- a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air to be blown into the passenger compartment is conditioned, said heating heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger; and
- a mode switching member for selectively switching flow direction of the conditioned air blown into the passenger compartment, wherein[:]
  - said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes; and
  - said blower is [disposed to be shifted] offset from said cooling heat exchanger to a side of said cooling heat exchanger.

*Subcombination  
being  
claimed.*

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7. (Amended) An air conditioner according to claim 6, wherein said blower and said cooling heat exchanger are disposed in such a manner that air is approximately horizontally blown from said blower to a lower side of said cooling heat exchanger, and

wherein air is introduced into said cooling heat exchanger from below [upwardly] the cooling heat exchanger.

8. (Twice Amended) An air conditioner according to claim 6, wherein:  
air is blown from said blower in [an air-blowing] the air passage;  
said cooling heat exchanger is disposed [on an extending line of] within said air-blowing passage [continually]; and

said cooling heat exchanger is inclined such that the cooling heat exchanger includes a higher side and a lower side;

said cooling heat exchanger is arranged in the air passage such that air blown by the blower is directed to the side through the air passage from the blower toward the higher side of the cooling heat exchanger and subsequently toward the lower side of the cooling heat exchanger, and such that air blown by the blower passes upwardly through the cooling heat exchanger.

9. (Amended) An air conditioner according to claim [8] 6, wherein said tubes extend in a direction approximately equal to [an air blowing] a direction of air blown in said air [blowing] passage from the blower to the cooling heat exchanger.

11. (Amended) An air conditioner according to claim 6, wherein:  
said case has a drain port for draining condensed water from said cooling heat exchanger to an outside of said case; and

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said drain port is provided at a [most bottom] bottom-most portion of said case [at a lower side of said cooling heat exchanger].

12. (Amended) An air conditioner according to claim 6, wherein:

said case has a first opening for blowing air toward an upper side of the passenger compartment, a second opening for blowing air toward a lower side of the passenger compartment, and a third opening for blowing air toward a windshield [of the vehicle]; and

said mode switching member is disposed at an upper side of said heating heat exchanger to selectively open and close said first opening, said second opening and said third opening.

(14) (Amended) An air conditioner for a vehicle having a passenger compartment, said air conditioner comprising:

a case forming an air passage through which air flows into the passenger compartment;

a cooling heat exchanger for cooling air, said cooling heat exchanger being slightly inclined relative to a horizontal surface by an inclination angle;

a heating heat exchanger for heating air from said cooling heat exchanger so that temperature of air flowing into the passenger compartment is conditioned, said heating [hear] heat exchanger being disposed approximately horizontally at an upper side of said cooling heat exchanger; and

a mode switching member for selectively switching flow direction of the conditioned air flowing into the passenger compartment, wherein

said cooling heat exchanger includes a plurality of tubes through which refrigerant flows, and a plurality of corrugated fins disposed between adjacent said tubes; and

[wherein] said cooling heat exchanger is disposed in said case so that air is introduced

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into a space under said cooling heat exchanger from a side of said cooling heat exchanger.